

THE CLAIMS

What is claimed is:

- 5 1. A device for attaching a fixation element to bone, comprising:
 a longitudinal member extending along a longitudinal axis from a proximal end to a
 distal end and having a channel extending therein adapted for receiving at least a portion of
 one fixation element; and
 a shaft positioned coaxially within and extending along at least a portion of the
10 longitudinal member, at least a portion of the shaft retained within the channel of the
 longitudinal member and having a distal end configured and adapted to contact at least a
 portion of the fixation element,
 wherein the longitudinal member is moveable with respect to the shaft to drive the
 fixation element into bone.
- 15 2. The device of claim 1, wherein the longitudinal member includes a first
 member for receiving at least one fixation element at the distal end and a second member
 attached coaxially to the first member, and the first member is movable with respect to the
 second member.
- 20 3. The device of claim 2, further comprising a spring housed within the channel
 and engaging the first member for resiliently biasing the first member in the axial direction.
4. The device of claim 2, wherein the first and second members are
25 substantially cylindrical and the first member is movable telescopingly within the second
 member.
5. The device of claim 2, wherein the first and second members are interlocked
 in the axial direction.
- 30 6. The device of claim 1, wherein the shaft is substantially cylindrical and has
 at least two portions with different diameters.
7. The device of claim 1, wherein the distal end of the longitudinal member
35 includes a pronged tip for resiliently holding a fixation element therein.

8. A device for attaching a fixation element to bone, comprising:
a handle member adapted for being held by a user and having a recess extending therein;

5 a longitudinal member extending along a longitudinal axis from a proximal end to a distal end and having a channel extending therein adapted for receiving at least a portion of one fixation element, the proximal end of the channel communicating with the recess in the handle member; and

a shaft positioned coaxially and extending within at least a portion the channel of the longitudinal member, the shaft coupled to the handle at a proximal end, and having a distal
10 end adapted to contact at least a portion of the fixation when the fixation element is driven into the bone,

wherein the longitudinal member is moveable with respect to the shaft to drive the fixation element into bone.

15 9. A device for attaching a bone tack having a head portion and an insertion end to bone, comprising:

a handle adapted for receiving a force from a user, the handle having a recess extending therein;

20 an elongated sleeve having a longitudinal axis, a proximal end, a distal end, and a hollow portion extending along the longitudinal axis between the proximal end and the distal end, the hollow portion of the sleeve communicating with the recess in the handle to form a channel, the sleeve telescopingly moveable with respect to the handle, the sleeve adapted to hold the head portion of the tack;

25 a shaft at least a portion of which extends within the channel, the shaft having a proximal end fixedly attached to the handle and a distal end adapted to contact the head of the tack when it is driven into the bone, the shaft also having an enlarged head portion; and

a spring housed within the channel and coaxial with the shaft, the spring engaging the head portion of the shaft and at least one of the sleeve and handle,

30 wherein when a force is applied to the handle, the channel shortens in length and the distal end of the shaft contacts the head of the bone tack and drives the bone tack into bone.

10. A device for attaching fixation elements to bone, comprising:

a longitudinal member extending along a longitudinal axis extending from a proximal end to a distal end and having a channel extending therein; and

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a plurality of carrier members positionable within the channel, wherein each carrier member comprises a body extending from a distal body end to a proximal body end and the distal body end is adapted to receive at least a portion of a fixation element.

5 11. The device of claim 10, wherein the carrier member has a cavity at the proximal body end configured and dimensioned for receiving a distal body end of an adjacent carrier member.

 12. The device of claim 10, wherein the carrier member has a frustoconical
10 portion.

 13. The device of claim 10, wherein the fixation element is held to the distal body end by a friction fit.

15 14. The device of claim 10, wherein the carrier member includes a conical tip portion adjacent the distal body end and a shoulder is positioned adjacent the tip portion and extends radially outward therefrom for contacting the proximal body end of an adjacent carrier member when such carrier members are in abutting relationship.

20 15. The device of claim 10, wherein the carrier members are stackable such that a plurality of carrier members are positionable in abutting relationship.

 16. The device of claim 10, wherein the carrier members are axially alignable within the channel.

25 17. The device of claim 10, further comprising a shaft located centrally with respect to the channel for moving the carrier members axially with respect to the shaft.

 18. The device of claim 17, wherein the shaft includes a frustoconical tip at a
30 distal end and the tip is configured and dimensioned to be received in the proximal body end of the carrier member.

 19. The device of claim 18, further including a tab extending radially outward from the shaft, the tab configured to be movable by a human finger such that the shaft may
35 be moved with respect to the longitudinal member.

20. The device of claim 19, further comprising a spring which engages a slot in the longitudinal member for locating the shaft at a plurality of preselected locations with respect to the longitudinal member.

5 21. The device of claim 10, wherein the channel has a front opening at the distal end of the longitudinal member such that the carrier members can travel through the opening.

22. The device of claim 21, wherein the channel further includes a back opening
10 at the proximal end of the longitudinal member and the carrier member can travel through the back opening.

23. The device of claim 10, wherein a handle is connected to the proximal end of the longitudinal member, the handle configured and dimensioned to receive the hand of a
15 user.

24. A device for holding a fixation element, comprising:
a carrier body extending from a distal body end to a proximal body end, said body comprising,
20 a holding portion positioned at the distal body end adapted to releasably hold the fixation element, and
a receiving portion integral to the holding portion positioned at the proximal body end and defining an interior cavity adapted to receive the distal body end of an adjacent carrier body, and said adjacent carrier bodies are stackable

25 25. The device of claim 24, wherein the holding portion has an exterior contour and the interior cavity has an internal contour, and the interior contour is configured and dimensioned to conform to the exterior contour.

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